

REMARKS

Status of the claims:

With the above amendment, claim 4 has been canceled and claims 1 and 7 have been amended. New claim 9 has been added. No new matter has been added by way of the above amendments. Claim 1 has been amended by incorporating the subject matter of claim 4 into it. Claim 6 has been amended by correcting its dependency. Claim 9 has support at page 18, lines 6-9. Reconsideration is respectfully requested in light of the following remarks.

Rejections under 35 USC §102

Claims 1-4 have been rejected under 35 USC §102(b) as being anticipated by Hachiboshi '802 (US Patent No. 4,133,802). The Examiner asserts that the process disclosed in Hachiboshi '802 is substantially the same as the process disclosed in the instant invention. In particular, the Examiner asserts that Hachiboshi '802 uses a stretching process and stretching ratio and a velocity of stretching that overlaps with the instant invention (see column 1, line 32, column 2, lines 60 to column 3, line 13, column 4, line 25-44, and Table 4).

Applicants traverse. Applicants submit that Hachiboshi '802 does not anticipate the claims. Hachiboshi '802 fails to disclose or suggest a tensile modulus at least in one direction

that is at least 7 Gpa. The tensile modulus disclosed in Hachiboshi '802 is 553 kg/mm<sup>2</sup>, which converts to a tensile modulus of 5.4 Gpa, at a maximum. Please see the disclosure in Hachiboshi '802 at column 10, Table 6, Example 6. Although the words "Young's modulus" are used in Hachiboshi '802 instead of the word the "tensile modulus", one of ordinary skill in the art would immediately know that these are the same. Because Hachiboshi '802 does not satisfy the tensile modulus, the rejection is inapposite. Withdrawal of the rejection is warranted and respectfully requested.

Moreover, Hachiboshi '802 fails to disclose or suggest an aromatic polyamide as is claimed in claim 1 of the instant invention. The definition of an aromatic polyamide appears at page 6, lines 14 to 17 as well as in general formulas (I) and (II). In other words, the aromatic polyamide of the instant invention is a polyamide in which at least 50 molar percent is a wholly aromatic unit. In contrast, the polyamide disclosed in Hachiboshi '802 is at least 70 molar percent aliphatic and at most 30 percent aromatic. Please see claim 1 in Hachiboshi '802. This difference results in a polyamide in Hachiboshi '802 that has good film formability but is inferior to the instant invention in physical properties. In other words, this difference is the reason why the tensile modulus of Hachiboshi '802 falls outside the scope of the instant claims.

Moreover, Applicants respectfully point out that the process disclosed in Hachiboshi '802 is not the same as the process disclosed in the instant invention. In particular, some of the conditions such as stretching velocity may overlap with the stretching velocity disclosed in the instant invention, but the stretching temperatures disclosed in Hachiboshi '802 versus that disclosed in the instant invention differ greatly. In Hachiboshi '802, the stretching temperature is 140°C at a maximum whereas in the instant invention the stretching temperature is preferably from 200 to 350°C. Applicants also respectfully point out that when the stretching temperature is lower than 200°C (as disclosed by Hachiboshi '802), the Poisson's ratio decreases. Please see page 18, lines 6 to 9 of the instant written description. Thus, Applicants believe that the Poisson's ratio disclosed in Hachiboshi '802 is lower than that disclosed in the instant invention. For the above reasons, Applicants submit that the rejection over Hachiboshi '802 has been obviated. Withdrawal of the rejection is warranted and respectfully requested.

#### **Rejections under 35 USC §103**

Claims 5 and 7-8 have been rejected under 35 USC §103(a) as being unpatentable over Hachiboshi '802 in view of Suwarnasarn '019 (US Patent No. 4,833,019).

Applicants traverse.

### Present Invention

The present invention, as recited in claim 1, relates to an aromatic polyamide film wherein the Poisson's ratio of the traverse direction (TD) to the longitudinal direction (MD) is less than 0.4, and wherein a tensile modulus at least in one direction is at least 7 Gpa.

### Disclosure of Hachiboshi '802

Hachiboshi '802 discloses a drawn film of polyamide having an oxygen permeability coefficient of not more than  $5 \times 10^{-13}$  ml.cm/cm<sup>2</sup>.sec.cmHg, a breaking strength of not less than 14 kg/mm<sup>2</sup>, a breaking elongation of 30 to 150%, a yield strength of not less than 7 kg/mm<sup>2</sup> and a yield elongation of 2 to 6%, which can be manufactured by drawing an undrawn polyamide film biaxially at a temperature within a certain range and optionally heat treating the resulting drawn film, the said undrawn polyamide film being made of a polyamide having a relative viscosity of about 2.0 to 4.0 when measured with a solution thereof in 96% sulfuric acid at a concentration of 1 g/100 ml at 25°C and containing in the molecule not less than 70% (mol) of the repeating unit constituted with metaxylylenediamine or its mixture with paraxylylenediamine and an  $\alpha,\omega$ -aliphatic

dicarboxylic acid having 6 to 10 carbon atoms, which is said to be useful as a packaging material due to its purported excellent properties in tensile strength, yield strength, Young's modulus, heat stability, size stability, transparency, gas barrier property, etc.

Disclosure of Suwarnasarn '019

Suwarnasarn '019 discloses a magnetic recording tape said to have a substantial increase in electromagnetic and head cleaning capabilities comprising a thin magnetic layer carried on a non-magnetic support film. The film has a ratio of Young's modulus in the longitudinal direction to Young's modulus in the transverse direction sufficiently low, typically between about 0.3 and 0.5, to provide a tape that is said to have improved properties.

Removal of the rejection over Hachiboshi '802 in view of Suwarnasarn '019

Applicants assert that the Examiner has failed to make out a *prima facie* case of obviousness with regard to the 35 USC §103(a) rejection over Hachiboshi '802 in view of Suwarnasarn '019. Three criteria must be met to make out a *prima facie* case of obviousness.

- 1) There must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.
- 2) There must be a reasonable expectation of success.
- 3) The prior art reference (or references when combined) must teach or suggest all the claim limitations.

See MPEP §2142 and *In re Vaeck*, 20 USPQ2d 1438 (Fed. Cir. 1991). In particular, the Examiner has failed to meet the third element to make a *prima facie* obviousness rejection.

Neither Hachiboshi '802 nor Suwarnasarn '019 disclose or suggest the aromatic polyamide film of the instant invention. As discussed above, Hachiboshi '802 fails to disclose or suggest an aromatic polyamide as is claimed in claim 1 of the instant invention. The definition of an aromatic polyamide appears at page 6, lines 14 to 17 as well as in general formulas (I) and (II). In other words, the aromatic polyamide of the instant invention is a polyamide in which at least 50 molar percent is a wholly aromatic unit. In contrast, the polyamide disclosed in Hachiboshi '802 is at least 70 molar percent aliphatic and at most 30 percent aromatic. Please see claim 1 in Hachiboshi '802.

Suwarnasarn '019 also fails to disclose or suggest the aromatic polyamide film as disclosed in the instant invention.

Thus, even if Hachiboshi '802 is combined with Suwarnasarn '019, these two references fail to arrive at the instantly claimed invention. For this reason alone, the rejection is inapposite. Withdrawal of the rejection is warranted and respectfully requested.

Even if a *prima facie* case were made, which Applicants do not concede, the combination of Hachiboshi '802 and Suwarnasarn '019 would still not attain the properties of the instant invention as the tensile modulus at least in one direction would not arrive at the claimed at least 7 Gpa. For this reason also, withdrawal of the rejection is warranted and respectfully requested.

Moreover, Suwarnasarn '019 fails to disclose how to control the properties of polyamide films, but rather only discloses how to control the properties of polyethylene terephthalate films. In contrast, Hachiboshi '802 only discloses how to control properties in polyamide films. Thus, one of ordinary skill in the art would not combine these vastly different teachings to arrive at the instant invention. Withdrawal of the rejection is warranted and respectfully requested.

With the above remarks and amendments, it is believed that the claims, as they now stand, define patentable subject matter such that passage of the instant invention to allowance is warranted. A Notice to that effect is earnestly solicited.

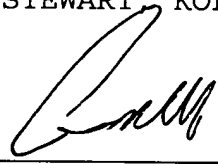
If any questions remain regarding the above matters, please contact Applicant's representative, T. Benjamin Schroeder (Reg. No. 50,990), in the Washington metropolitan area at the phone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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By

  
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